



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.	
09/975,271	10/10/2001	Edward L. Witzke	SD-6778/96430	8861	
20567	7590	10/31/2006	EXAMINER		
SANDIA CORPORATION				MARCELO, MELVIN C	
P O BOX 5800				ART UNIT	
MS-0161				2616	
ALBUQUERQUE, NM 87185-0161				PAPER NUMBER	

DATE MAILED: 10/31/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

10

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/975,271	WITZKE ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Melvin Marcelo	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 12 October 2006.
- 2a) This action is **FINAL**.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 2-12,14,15,17-24,26 and 27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) 2-12 and 17-24 is/are allowed.
- 6) Claim(s) 14,15,26 and 27 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 10 October 2001 is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
  1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

**DETAILED ACTION**

***Response to Amendment***

1. Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.
2. The indicated allowability of claims 14, 15, 26 and 27 is withdrawn in view of the newly discovered reference(s) to Castellano (US 6,690,670 B1) and Tan et al. (US 2004/0202179 A1). Rejections based on the newly cited reference(s) follow.

***Claim Rejections - 35 USC § 103***

3. Claims 14, 15, 26 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Castellano (US 6,690,670 B1) in view of Tan et al. (US 2004/0202179 A1) and Tuttle et al. (US 5,621,913 A).

Claims 14-15 and 26-27 are directed to an ATM switch on at least one circuit board for directing communication flow amongst circuit boards in a localized wireless communication system. The claimed subject matter broadly reads on the UTOPIA systems taught by Castellano and Tan, wherein the ATM layer device and PHY layer device are located on different printed circuit boards (PCB) and connected by a backplane (Castellano, Figures 4A-4C, wherein the ATM layer device is an ATM switching fabric (column 2, lines 52-53) using a wired backplane bus for communication with the PHY layer device on a different PCB (column 5, lines 4-13)), and the wired backplane of an UTOPIA system can be replaced with a wireless medium (Tan, Figures 5 and 6, wherein the media transceiver 24 for communication into the transmission cloud 16 can be a backplane or wireless medium (paragraph 48)). Tuttle teaches that wireless radio frequency communications (column 1, lines 18-20) utilizes a modulator (column 2, lines 38-40) and demodulator (column 2, lines 40-41). With respect to electronic components with radio transceiver, a skilled artisan would have been motivated to incorporate

Tuttle's teaching of providing these components on a circuit board into the UTOPIA system taught by Castellano and TAN for the reason that the printed circuit boards includes electronic components such as ATM layer devices or PHY layer devices and their associated electronic components.

With respect to the claims below, references to the prior art appear in parenthesis.

Claims

**14. (Original) A localized wireless communication system for communicating information between a plurality of circuit boards, each of the circuit boards having at least one electronic component located on the board (Combination of the UTOPIA system with the ATM layer device on one PCB and the PHY layer device on another PCB taught by Castellano (Figures 4A-4C) and the explicit teaching of TAN that in the UTOPIA system, the backplane can be replaced with a wireless medium (paragraph 48)), said system comprising:**

*an asynchronous transfer mode protocol switch on at least one of the circuit boards for directing communication flow amongst circuit boards in an asynchronous transfer mode protocol (Castellano teaches that the ATM layer device can be a high speed ATM switching fabric (column 2, lines 52-53) on a PCB for directing flow amongst the PHY layer devices on different PCBs (Figure 4C));*

*a radio frequency modulator operable in conjunction with said switch for encoding electrical signals from said switch into signals for radio frequency transmission (TAN teaches that the media transceiver 24 in Figure 6 can be for a backplane or a wireless medium for the UTOPIA system (paragraph 48), wherein a skilled artisan would have been motivated to use known devices for communicating on a wireless medium and that Tuttle teaches one such known device for providing wireless radio frequency communication (column*

Art Unit: 2616

**1, lines 18-20) which includes a modulator (column 2, lines 38-40) and demodulator (column 2, lines 40-41);**

*a transceiver operable in conjunction with said modulator for said switch for transmitting radio frequency signals from said switch and for receiving radio frequency signals to said switch (Tan teaches the media transceiver 24 in Figure 6 for use in the UTOPIA system with the ATM layer device); and*

*a radio frequency demodulator operable in conjunction with said switch for decoding radio frequency signals received by said transceiver into electrical signals for said switch (Tuttle teaches the demodulator (column 2, lines 40-41) for use in wireless radio frequency communication).*

*15. (Original) The system of claim 14 further comprising at least one transceiver for transmitting radio frequency signals from electronic components on the circuit boards and for receiving radio frequency signals to said components (Tuttle teaches electronic components with radio transceivers (Figure 2) for use on circuit boards), said component transceiver further comprising a modulator for encoding electrical signals from said components into signals for radio frequency transmission (Tuttle teaches the modulator (column 2, lines 38-40) for use in wireless radio frequency communication) and a demodulator for decoding radio frequency signals received by said transceiver into electrical signals for the electronic components (Tuttle teaches the demodulator (column 2, lines 40-41) for use in wireless radio frequency communication).*

*26. (Original.) A method of localized wireless communication for communicating information between a plurality of circuit boards, each of the circuit boards having at least one electronic*

*component located on the board (Combination of the UTOPIA system with the ATM layer device on one PCB and the PHY layer device on another PCB taught by Castellano (Figures 4A-4C) and the explicit teaching of TAN that in the UTOPIA system, the backplane can be replaced with a wireless medium (paragraph 48)), the method comprising:*

*locating an asynchronous transfer mode protocol switch on at least one of the circuit boards and directing communication flow amongst circuit boards in an asynchronous transfer mode protocol (Castellano teaches that the ATM layer device can be a high speed ATM switching fabric (column 2, lines 52-53) on a PCB for directing flow amongst the PHY layer devices on different PCBs (Figure 4C));*

*encoding electrical signals from the asynchronous transfer mode switch into signals for radio frequency transmission with a radio frequency modulator (Tan teaches that the media transceiver 24 in Figure 6 can be for a backplane or a wireless medium for the UTOPIA system (paragraph 48), wherein a skilled artisan would have been motivated to use known devices for communicating on a wireless medium and that Tuttle teaches one such known device for providing wireless radio frequency communication (column 1, lines 18-20) which includes a modulator (column 2, lines 38-40) and demodulator (column 2, lines 40-41));*

*transmitting radio frequency signals from the asynchronous transfer mode switch and receiving radio frequency signals to the switch with a transceiver (Tan teaches the media transceiver 24 in Figure 6 for use in the UTOPIA system with the ATM layer device); and*

*decoding radio frequency signals received by the transceiver into electrical signals for the asynchronous transfer mode switch (Tuttle teaches the demodulator (column 2, lines 40-41) for use in wireless radio frequency communication).*

Art Unit: 2616

27. (Previously Amended) *The method of claim 26 further comprising the steps of transmitting and receiving radio frequency signals from electronic components on the circuit boards with transceivers operating in conjunction with the electronic components (Tuttle teaches electronic components with radio transceivers (Figure 2) for use on circuit boards);*

*encoding electrical signals from the components into signals for radio frequency transmission by the transceivers (Tuttle teaches that radio transmission and reception can use different coding schemes (column 3, lines 53-66)); and*

*decoding radio frequency signals received by the transceivers into electrical signals for the electronic components (Tuttle teaches that radio transmission and reception can use different coding schemes (column 3, lines 53-66)).*

#### ***Allowable Subject Matter***

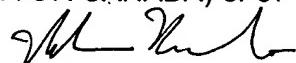
4. Claims 2-12 and 17-24 are allowed.

#### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melvin Marcelo whose telephone number is 571-272-3125. The examiner can normally be reached on Mon-Fri 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wellington Chin can be reached on 571-272-3134. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Melvin Marcelo  
Primary Examiner  
Art Unit 2616

October 29, 2006